

Peculiarities of solid-phase...

S/020/62/147/002/016/021
B101/B186

the solid phase. The following causes are assumed for solid-phase radiation polymerization: (a) formation of short-lived excited molecules; (b) loosening of substance along the tracks of primary particles and δ -electrons, which imparts properties to the substance similar to those that occur near phase transitions and near the melting point. There are 4 figures.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

SUBMITTED: August 3, 1962

Card 3/3

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756710005-9

I 35522-05 Final/ENP(1) POW RM

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756710005-9"

L 8879-65

ACCESSION NR: AP4009153

metric measurements have shown that polymerization of VA in the solid phase occurs only in the presence of irradiation. The polymerization is highly sensitive to the dose of irradiation.

in the course of irradiation may be due either to the effective participation of short-lived, excited states in the propagation of the energy chains or to the change in state of the solid during the course of the irradiation. Orig. art. has: 4 figures.

Author: V. A. Kiselev, V. A. Kiselev, V. A. Kiselev, Institute of Chemical Physics, AN SSSR.

ABSTRACT: The radiation polymerization in the solid phase of monomers was investigated. The initial polymerization rate, post-polymerization kinetics, and the kinetics of acrylonitrile (AN) polymerization induced by fast electrons with an electron dose of 10²¹ cm⁻² were studied. The polymerization was carried out at temperatures controlled to within 0.1°C. The results show that the radiation polymerization in the solid phase and the post-polymerization kinetics are similar to those in the liquid phase and the kinetics of AN polymerization induced by fast electrons in the solid phase and in the liquid phase are also similar.

...the authors express their sincere appreciation for the great interest and attention with which N. N. Semenov has followed the work, [as well as] their thanks to V. V. Shmelev for assisting in the measurements." Orig. art. has: 6 figures.

ASSOCIATION: Institut Khimicheskoy Fiziki AN SSSR (Institute of Chemical Physics AN SSSR)

SUBMITTED: 10Am/62

ENCL: 00

EMP CODE: 00, 01

NO REF SOV: 011

OTHER: 011

Card 2/2

L 16320-65 EWT(m)/IPF(c)/ERP(j)/I . PC-4/Pr-4 RM
 S/0190/64/006/011/2102/2103
 ACCESSION NR: AP4049161

AUTHOR: Prut, E. V.; Trofimova, G. M.; Yenikolopyan, N. S.

TITLE: Cationic polymerization of hexamethylcyclotrisiloxane in the solid phase

SOURCE: Vy'sokomolekul'arnyye soyedineniya, v. 6, no. 11, 1964, 2102-2106.

TOPIC TAGS: hexamethylcyclotrisiloxane, dimethylsiloxane rubber, trioxane, cationic polymerization, tin tetrachloride

ABSTRACT: Hexamethylcyclotrisiloxane was polymerized for the first time in the solid phase. The cationic catalyst, SnCl_4 , was obtained by pyrolysis of dimethylsiloxane rubber. The polymerization was carried out in the solid phase. The reaction proceeded at 40°C with the yield of polymer increasing with time. The polymerization temperature was 40°C, the molecular weight was determined by gel permeation chromatography. The yield and molecular weight of the polymer were found to increase with the catalyst concentration and with the amount of catalyst. This phenomenon cannot be explained by the existing theories on polymerization and requires further extensive investigation of the kinetics of this process. Orig. art. has: 2 figs.

Card 1/2

1 15320-63

ACCESSION NR: AP4049161

ASSOCIATION: None

SUBMITTED: 24Feb64

ENCL: 00

SUB CODE: OC

NO REF SOV: 000

OTHER: 002

Card

2/2

4
BARKALOV, I.M., GOLDANSKIY, V.I., YENIKOLOPIAN, N.S., TROFIMOVA, G.M.,
TEREKHOVA, S.F.

Radiation-induced solid-state polymerization.
Part I..Polymerization of acrylonitrile.

Part II..Polymerization of vinyl acetate.

Various kinds of polymerization rate temperatures dependences.

Report submitted for the International Symposium of Macromolecular chemistry,
Paris, 1-6 July 63

BARKALOV, I.M.; GOL'DANSKIY, V.I.; YENIKOLOPOV, N.S.; TEREKHOVA, S.F.;
TROFIKOVA, G.M.

Specific features of solid-phase radiation polymerization
in the course of irradiation. Dokl. AN SSSR 147 no.2:395-398
N '62. (MIRA 15:11)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent
AN SSSR (for Gol'danskiy).
(Polymerization)
(Radiation)

TROFIMOVA, G. M.

(b)
Radiation-Induced Polymerization of Monomers in the Solid State

I. M. Barslov, V. I. Gol'danskii, N. S. Lashkovskii,
S. F. Terekhova and G. M. Trofimova

The authors investigated the kinetics of the radiation-induced polymerization of a number of vinyl monomers (acrylonitrile, methylmethacrylate, vinyl acetate, formaldehyde). The polymerization was carried out using 1.5 MeV electrons. The temperature range studied (from -196 to 0°C) included the melting point of the monomer. The temperature-dependence of the polymerization rate near the melting point changed in a variety of ways. The polymer yield in the solid phase reached a limiting value with increasing dose. The influence of phase transitions on the kinetics of polymerization was established. The results are interpreted on the basis of the theory developed and presented by N. N. Semenov at the International Symposium of Macromolecular Chemistry (Moscow, July 1960), and at the 18th Congress of Pure and Applied Chemistry (Montreal, August, 1961).

Institute of Chemical Physics of the Academy of Sciences of the USSR, Moscow

report presented at the 2nd Intl. Congress of Radiation Research,
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

KHOMUTOV, L.I.; TROFIMOVA, G.P.; KORCHAGINA, Ye.F.; GLIKMAN, S.A.

Gelation processes and visco-elastic properties of gels.
Zhur.prikl.khim. 38 no.3:638-643 Mr '65.

(MIRA 18:11)

1. Submitted March 19, 1964.

L 41315-66 EWI(m)/ENP(j) RM

ACC NR: AP6024019

SOURCE CODE: UR/0062/66/000/006/1009/1016

AUTHOR: Golubtsov, S. A.; Korobov, V. V. (Deceased); Popkov, K. K.; Trofimova, I. V.;
Turetskaya, R. A.; Andrianov, K. A.; Belikova, Z. V.; Golosova, R. M.; Cygenblit, A. A.
Aristova, V. G.

ORG: none

TITLE: Reactions of formation of alkyl(aryl)chlorosilanes in a direct interaction between alkyl (aryl) chlorides and silicon. Report No. 6. Role of cuprous chloride in the formation of dialkyldichlorosilanes

SOURCE: AN SSSR. Izv. Ser khim, no. 6, 1966, 1009-1016

TOPIC TAGS: silane, chloride, silicon compound, copper compound, *CHEMICAL REACTION*

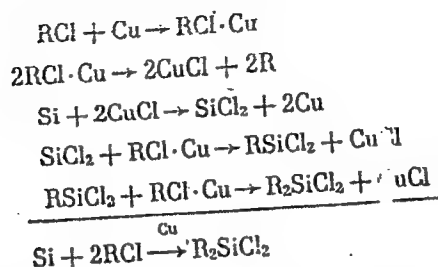
ABSTRACT: A mechanism is proposed for the formation of dimethyl(diethyl)dichlorosilane and methyl(ethyl)trichlorosilane during the reaction of methyl (ethyl) chloride with silicon on cuprous chloride. The proposed mechanism for the formation of dialkyldichlorosilanes is as follows:

Card 1/2

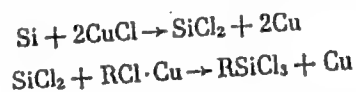
UDC: 546.287+542.91+541.124+543.422

L 41315-66

ACC NR: AP6024019



The formation of alkyltrichlorosilane is represented as follows:



Experimental data obtained confirmed these mechanisms. Thermodynamic calculations of the initial stages of the reactions of methyl and ethyl chloride with silicon were performed. The formation of dichlorosilene is thermodynamically quite probable under the conditions of synthesis of alkylchlorosilanes. UV spectra of the products formed by the reaction of cuprous chloride with silicon showed a group of bands characteristic of the spectrum of SiCl_2 . Orig. art. has: 2 figures and 5 tables.

SUB CODE: 07/ SUBM DATE: 12Feb64/ ORIG REF: 008/ OTH REF: 012

Card

2/2 *ML*

TROFIKOVA, I.

A Polish miner, Marian Pszebytnski. Mast. ugl. 5 no.8:
22-24 Ag '56. (MLRA 9:11)

(Pszebytnski, Marian)

41724-65 EWT(m)/EPY(c)/EPR/IMP(1)/T 20.0/17-4.5-4/10.17 12.0/11
20.0/17-4.5-4/10.17 12.0/11

20.0/17-4.5-4/10.17 12.0/11

20.0/17-4.5-4/10.17 12.0/11

20.0/17-4.5-4/10.17 12.0/11

ABSTRACT: This Author Certificate presents a method for obtaining the
condensate mixture. The mixture is introduced into the heat

ASSOCIATION: none

STANDARD

1.0/17-4.5-4/10.17 12.0/11

20.0/17-4.5-4/10.17 12.0/11

L 47000-66 EWP(k)/EWT(d)/EWT(m)/EWP(w) IJP(c) EM/RM

ACC NR: AR6027168

SOURCE CODE: UR/0264/66/000/005/A008/A008

AUTHOR: Aleksandrov, A. Ya. ; Trofimova, E. P.

36
B

ORG: none

TITLE: Local stability of three-layered plates with honeycomb fillers at longitudinal compression

SOURCE: Ref. zh. Vozdushnyy transport, Abs. 5A50

REF SOURCE: Sb. Raschety elementov aviats. konstruktsiy. Vyp. 4. M., Mashinostroyeniye, 1965, 5-18

TOPIC TAGS: stability, honeycomb structure, elastic deformation, compression

ABSTRACT: A study has been made of the local stability of three-layered plates with honeycomb fillers, having 6-face and 4-face cells, under uniform longitudinal compression of the plate in one and two directions. Equations have been obtained by an energy method for determining critical loads. The results obtained extend to a region of elastic-plastic deformations and are verified by experiments. Com-

Card 1/2

UDC: 629.13:539.4:620.1

L 47000-66

ACC NR: AR6027168

parisons of critical loads were also carried out for plates with 6-face and 4-face honeycombs. Orig. art. has: 8 figures. Bibliography of 3 titles. [Translation of abstract]. [NT]

SUB CODE: 11/

ms
Card 2/2

TROFIMOVA, I. L.

SEE: DRAVERT, I. S., AND PRISTINA, R. A.

Dravert, I. S., Pristina, R. A., and Trofimova, I. L. "An analysis of the illness rate of scarlet fever in the city of Kirov in the post-war period," Trudy Kirovskogo in-ta epidemiologii i mikrobiologii, Collection 2, 1948, p. 94-102, - Bibliog: 13 items.

SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

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DRAVERT, I. S., PRISTINA, R. A. and TROFIMOVA, I. L. "An analysis of the illness rate of scarlet fever in the city of Kirov in the post-war period," Trudy Kirovskogo in-ta epidemiologii i mikrobiologii, Collection 2, 1948, p. 94-102, - Bibliog: 13 items.

SO: U-3736, 21 May '53, (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

KAGAN, M.Ya.; YERIVANSKAYA, L.A.; TROFIMOVA, I.V.

Mechanism of the catalytic dehydrocyclization of paraffin hydrocarbons. Doklady Akad. Nauk S.S.S.R. 82, 913-16 '52. (MLRA 5:4)
(GA 47 no.13:6335 '53)

1. Institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova,
Moscow.

TRCFIKOVA, I. V.

"A Study of the Kinetics and Reaction Mechanisms of the Isotopic Exchange of Hydrocarbons With Deuterium in the Presence of a Catalyst.- Chromium Oxide on Aluminum Oxide."
Cand Chem Sci, Order of the Labor Red Banner Sci-Res Physicochemical Inst imeni L. Ia.
Karpov, 17 Jan 55. (VII, 6 Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher
Educational Institutions (13)
SO: Sum. No. 598, 29 Jul 55

PROETNOVA. T V

—TROFINOVA, I. V.

USSR/ Physical Chemistry - Kinetics. Combustion. Explosives. Topochemistry.
Catalysis

B-9

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11292

Author : Andrianov K.A., Golubtsov S.A., Trofinova I.V., Denisova A.S.,
Turetskaya R.A.

Inst : Academy of Sciences USSR

Title : On the Role of Copper in the Reaction between Ethyl Chloride and Silicon

Orig Pub : Dokl. AN SSSR, 1956, 108, No 3, 465-468

Abstract : A study was made of the influence of Cu-content of silicon-copper alloys on their interaction with C_2H_5Cl (I); among the reaction products were found $C_2H_5SiHCl_2$, $C_2H_5SiCl_3$, $(C_2H_5)_2SiHCl$, $(C_2H_5)_2SiCl_2$ (II) and a number of liquid and gaseous products. Catalytic activity of alloys was evaluated on the basis of the content, in the reaction products, of II, the formation of which takes place according to the most advantageous reaction: $2C_2H_5Cl + Si \rightarrow (C_2H_5)_2SiCl_2$, involving no loss of organic radicals. With decrease in Cu-content of the alloy from 70 to 5%, content of II in the reaction products increases from 20 to 45-50%. It is shown that drop in catalytic activity of alloys with high Cu-content is due not to thermal

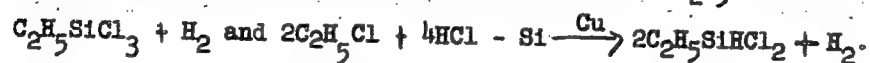
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USSR/ Physical Chemistry - Kinetics. Combustion. Explosives. Topochemistry.
Catalysis

B-9

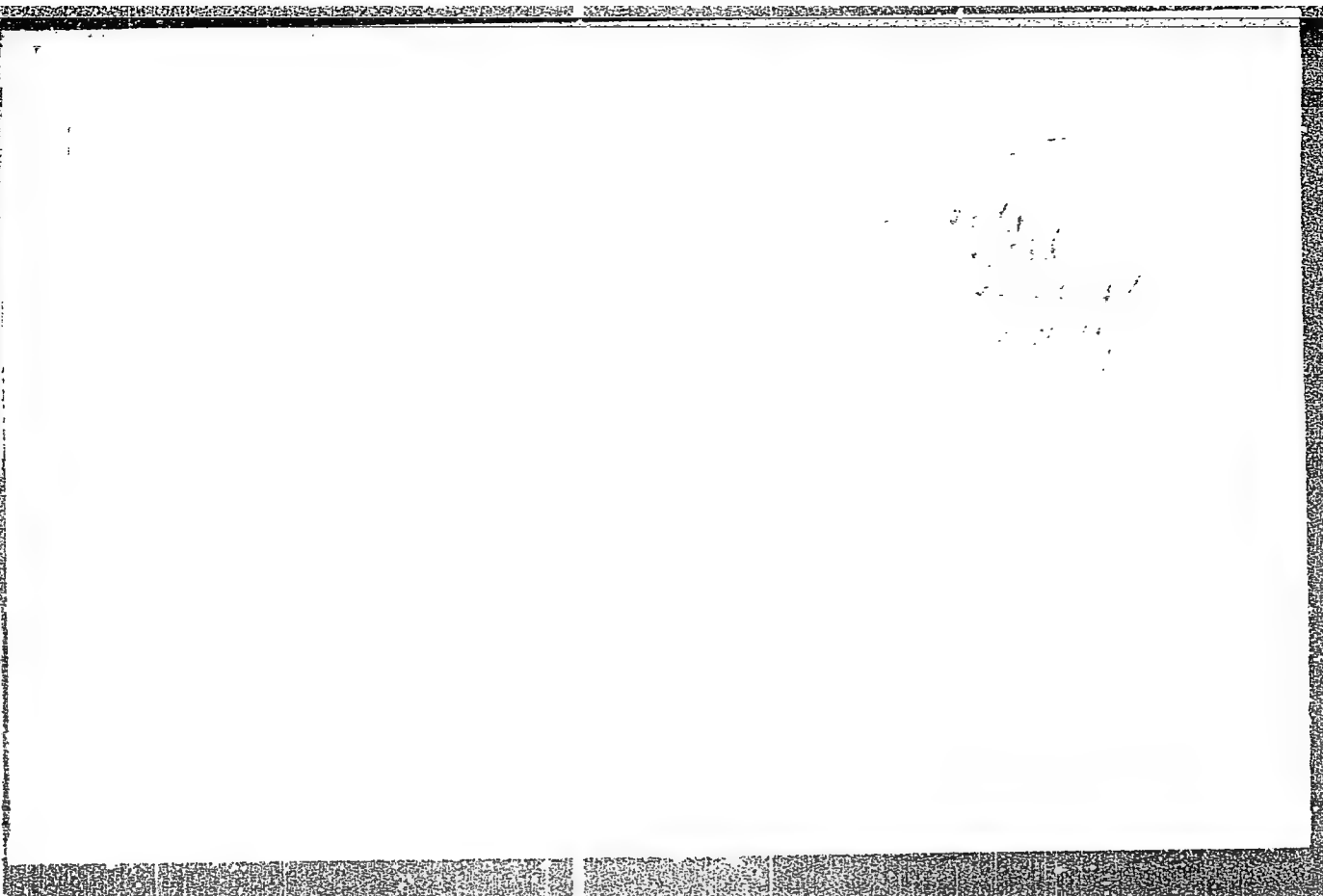
Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11292

decomposition of products (which is slight under the conditions of the synthesis), but to catalytic decomposition of I in the presence of Cu, according to the reaction:



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CIA-RDP86-00513R001756710005-9"

TRUFIMOVA I. V.

AUTHORS: (and 2) Krylov, V.D., Yefremov, Yu.N.

76-11-22/35

TITLE: The Structure of Cu-Si Alloys and Their Catalytic Activity in the Reaction with Chlorethyl (Struktura Cu-Si splavov i ikh kataliti-cheskaya aktivnost' v reaktsii s khloristym etilom)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 11, pp. 2522-2525 (USSR)

ABSTRACT: The phase composition of silicon-copper alloys (20-35% Cu) and their modification in a reaction with chlorethyl was investigated by the X-ray method. It is shown that all alloys of this composition, independent of their activity in the aforementioned reaction, have a two-phase structure: a silicon and a Cu_3Si (η -phase). It is shown that in the case of interaction with chlorethyl the silicon contained in the intermetallic compound Cu_3Si reacts in the first moment. This leads to the destruction of the given compound and to the formation of metallic copper, which is now the catalyzer of the further process of ethyl-chlorine-silane synthesis. The copper separated settles on the surface of silicon particles and deteriorates contact with chlorethyl, which is bound to lead to a decrease of the alloying activity. It is shown that the difference in the case of a beginning activity of Cu-Si alloys in the reaction with chlorethyl

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The Structure of Cu-Si Alloys and Their Catalytic Activity in the Reaction with
Chlorethyl

76-11-22/35

is connected with the difference in reaction velocity between
ohlorethyl and the silicon contained in the intermetallic compound.
The investigations connected with the chemical part of the pro-
cesses mentioned were carried out by I.V.Trofimova and R.A.
Turetskaya. There are 6 figures and 7 references, 3 of which are
Slavio.

SUBMITTED: August 27, 1956

AVAILABLE: Library of Congress

Card 2/2

Trofimova I.V.

AUTHORS: Andrianov, K. A., Golubtsov, S. A., 62-2-5/2S
Trofimova, I. V., Turataeva, R. A., Krylov, V. D.

TITLE: On the Modifications of the Catalytic Activity of Silicon-Copper Alloys in the Process of Direct Synthesis of Ethylchlorosilanes (Ob izmeneniyakh kataliticheskoy aktivnosti kremnednykh splavov v protsesse pryamogo sinteza etilkhlorosilanov).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 2, pp. 157-165 (USSR).

ABSTRACT: The direct synthesis of alkyl- and arylchlorosilanes by the influence of the haloid derivative upon elementary silicon in the presence of a copper catalyst was already described in several papers. But only scarce and insufficient data exist on the fact that the activity of the contact silicon-copper mass slowly decreases in the process of synthesis. Concrete reports on the reason for the modification of activity have hitherto not been published. In the present paper the following is said on the result of the experiment: It was found that in the interaction of the silicon-copper alloys with ethylene chloride their activity is highly re-

Card 1/2

On the Modifications of the Catalytic Activity of Silicon- 62-2-5/28
-Copper Alloys in the Process of Direct Synthesis of Ethylchlorosilanes.

duced, i.e. to the extent to which silicon enters into reaction (formation of ethylchlorosilanes). It was found that for alloys with a low content of copper (5-9%) the lines of the general activity in the reaction of the formation of diethylchlorosilane run over 2 maxima. In alloys with a high copper-content ($\sim 25\%$) the presence of only one selective maximum and one maximum of the general activity was determined. It is assumed that the interaction of ethyl chloride with silicon-copper alloys is composed of two parallel processes: a) the reaction with silicon of the intermetallic compound Cu_3Si with simultaneous separation of active copper; b) reaction with free silicon in the presence of the separated copper as catalyst. On the basis of this hypothesis the variability for alloys with a diverse content of copper can be explained. During the reaction carbon is to a considerable extent deposited at the surface of copper which may also contribute to a decrease in the activity of the mass. There are 2 figures, 7 tables, and 5 Slavic references.

SUBMITTED:
AVAILABLE:
Card 2/2

August 22, 1956

Library of Congress


1. Silicon-copper alloy catalysts 2. Ethylchlorosilanes-Synthesis

SOV/80-59-1-32/44

AUTHORS: Andrianov, K.A., Golubtsov, S.A., Tishina, E.N. and Trofimova, I.V.

TITLE: Direct Synthesis of Phenyltrichlorosilane in a "Fluidized" Bed
(Pryemoy sintez feniltrikhlorsilana v "kipyashchem" sloye)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Nr 1, pp 201-207 (USSR)

ABSTRACT: The authors investigated the synthesis of phenyltrichlorosilane out of chlorobenzene, hydrogen chloride and silicon in a "fluidized" bed in the presence of copper and iron as catalyzers at a temperature of approximately 600°C. The experiments performed showed the possibility of attaining the high efficiency of the process, the satisfactory yield of phenyltrichlorosilane, approximately 11 g from 100 g of the contact mass per hour, and sufficiently complete utilization of silicon,  60%. There are 7 tables and 5 references, 1 of which is Soviet and 4 American.

SUBMITTED: May 29, 1957

Card 1/1

TROFIMOVA, I. V.

I. V. Trofimova, K. A. Andrianov and S. A. Golubtsov, "The Synthesis of Trichlorsilane"

Report presented at the Second All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds held in Leningrad from 25-27 September 1958.

Zhurnal prikladnoy khimii, 1959, Nr 1, pp 238-240 (USSR)

5.3600

75687
SOV/80-32-10-36/51

AUTHORS: Andrianov, K. A., Golubtsov, S. A., Trofimova, I. V.,
Lobusevich, N. P.

TITLE: Direct Synthesis of Methylchlorosilanes in a Fluidized
Bed

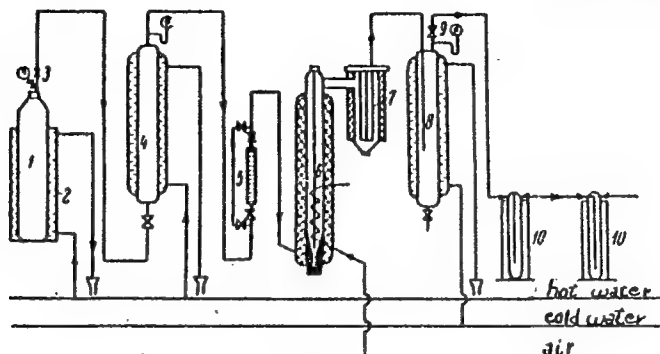
PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 10, pp
2332-2335 (USSR)

ABSTRACT: The present work was done in 1954-1955. The effective-
ness of the fluidized bed application was checked by
the synthesis of methylchlorosilanes. The reaction
between methyl chloride and silicon was carried out in the
presence of a silicon-copper alloy (20% Cu), at 4-5
atmospheres pressure. The reaction is exothermic and
needs to be cooled. Special apparatus was constructed
which included a cooling system. Dimethyldichlorosilane
content was between 42 and 47% in the reaction mix-
ture. A schematic diagram of the apparatus is given,
where 1 is methyl chloride cylinder; 2 is water bath;

Card 1/2

Direct Synthesis of Methylchlorosilanes in a
Fluidized Bed

75687
SOV/80-32-10-36/51



3 is valve; 4 is evaporator, heated with hot water;
5 is rotameter, 6 is reactor, 7 is filter; 8 is water-
cooled trap; 9 is valve; 10 is traps cooled with dry
ice and acetone. There are 2 figures; 2 tables; and 4
Soviet references.
May 15, 1958

SUBMITTED:
Card 272

37753

S/661/61/000/006/004/081
D205/D302

5.3700

11.12.50

AUTHORS: ~~Trofimova, I. V.~~, Andrianov, K. A., Golubtsov, S. A.,
Turetskaya, R. A., Belyakova, Z. V., Yakusheva, T. M.,
Lobusevich, N. P. and Luzganova, M. A.

TITLE: On the regulation of the composition of products in the
direct synthesis of methyl- and ethyl chlorosilanes in
a fluidized bed

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganiches-
kikh soyedineniy; trudy konferentsii. no. 6, Doklady,
diskussii, resheniye. II Vses. konfer. po khimii i prakt.
prim. kremneorg. soyed., Len., 1958. Leningrad, Izd-vo
AN SSSR, 1961, 25-27

TEXT: Regulation of the process is one of the main problems in
preparing monomeric organosilicon compounds. The most interesting
results were obtained during the attempt to regulate the product
composition by varying the preparation procedure of the catalyst.


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X

S/661/61/000/006/004/081
D205/D302

On the regulation ...

This method opens wide possibilities as can be judged from the obtained data. Thus a synthesis carried out on a Si-Cu melt containing 15 - 20% Cu gave 6% $\text{CH}_3\text{HSiCl}_2$, 30 - 40% $(\text{CH}_3)_2\text{SiCl}_2$ and 40% CH_3SiCl_3 , while the synthesis on a Si-Cu melt activated by cuprous chloride gave 6% $\text{CH}_3\text{HSiCl}_2$, 55% $(\text{CH}_3)_2\text{SiCl}_2$ and 25% CH_3SiCl_3 . Further modifications of the catalyst bring about further changes in the composition. Preliminary experiments on the production of methyl chlorosilanes from methane, were performed. Methyl dichlorosilane can be prepared in this way, with trichlorosilane and silicon by-products which can be utilized. For synthesis of ethyl chlorosilanes other methods of regulating the product composition were employed: Preliminary treatment of the Si-Cu catalyst by various gases at elevated temperatures, dilution of ethyl chloride by gases and activation of the ethyl chloride by minor additions. The most interesting results were obtained with preliminary treatment by air at 370°C . About 45% of diethyl chlorosilane was present in the product using a catalyst treated in this way. Dilution



Card 2/3

On the regulation ...

S/661/61/000/006/004/081
D205/D302

of EtCl with HCl and the introduction of 0.5 - 0.7% moisture increases the ethyl dichlorosilane content of diethyl dichlorosilane. There are 1 figure and 3 tables.

Card 3/3

X

37754

S/661/61/000/006/005/081
D205/D302

5:3700

11.1250

AUTHORS: Lobusevich, N. P., Trofimova, I. V., Andrianov, K. A.,
Golubtsov, S. A. and Belyy, A. P.

TITLE: Influence of some metal additives on the activity of
silicon-copper alloys in the synthesis of methyl chloro-
silanes

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganiches-
kikh soyedineniy; trudy konferentsii. no. 6, Doklady,
diskussii, resheniye. II Vses. konfer. po khimii i
prakt. prim. kremneorg. soyed., Len., 1958. Leningrad.
Izd-vo AN SSSR. 1961, 28-31

TEXT: The influence of impurities commonly encountered in silicon
(Al, Fe, Ca) and copper (Bi, Sn, Pb) on the activity of silicon-
copper alloys used in methyl chlorosilane synthesis was investiga-
ted. Two series of alloys were prepared: 1) From purified Si with
less than 0.2% of impurities; 2) from Kp-1 (Kr-1) silicon with 2%
impurities. These alloys, notwithstanding the identical procedure

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Influence of some ...

S/661/61/000/006/005/081
D205/D302

of preparation, were entirely different in their activity. Thus, the alloys prepared from the purified Si gave a much lower dimethyl dichlorosilane yield than those made of the non-purified Si. The average figures were 34.0% and 41.0% respectively. The introduction of Al (up to 1.5%), Fe (up to 3%), Ca (up to 0.6%), each taken separately, had very little influence on the activity of the alloys prepared from purified and non-purified Si. The use of Kr-2 silicon gives worse results. Pb and Bi have a strong detrimental influence on the activity of the alloys even at a concentration of 0.01% only, while the results obtained on the introduction of Sn were irreproducible. There are 9 tables.

X

Card 2/2

S/661/61/000/006/013/081
D205/D302

AUTHOR: Trofimova, I. V.

TITLE: Continuous synthesis of trichlorosilane

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedeny; trudy konferentsii, no. 6, Doklady, diskussii resheniye. II Vses. Konfer. po khimii i prakt. prim. kremneorg. soyed., Len. 1958. Leningrad. Izd-vo AN SSSR, 1961, 83-84

TEXT: In 1958, an apparatus for the continuous synthesis of trichlorosilane was put into production. 6 - 8 kg of Si powder sized between 75 and 250 μ are put into a vertical, tubular reactor, 100 mm in diameter and equipped with a conical bottom. The reactor is equipped with electrical heating and water cooling which permits automatic temperature control. Powder is fed continuously into the lower part, together with dry HCl. The residues are purged once in 24 hours for 3 minutes. The results of 3 runs ranging from 90 to 190 hours are given. The yields attained reproduce the labora-

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Continuous synthesis of ...

S/661/61/000/006/013/081
D205/D302

tory data, provided the HCl is dry. The presence of 0.05% moisture lowers the trichlorosilane content in the mixture from 100 to 90%; 0.35% of H₂O in HCl lowers this figure to ~65%. There are 2 figures and 1 table.

Card 2/2

LOBUSEVICH, N.P.; TROFIMOVA, I.V.; ANDRIANOV, K.A.; GOLUETSOV, S.A.

Effect of moisture, methanol, and oxygen in methyl chloride
on the synthesis of methylchlorosilanes. Zhur.prikl. khim.
37 no. 5:1148-1152 My '64. (MIRA 17:7)

37759

S/661/61/000/006/016/081
D205/D302

5.3700.

AUTHORS: Popeleva, G. S., Trufimova, I. V., Andrianov, K. A.
and Golubtsov, S. A.

TITLE: Study of vinyl chlorosilane synthesis

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soedineniy; trudy konferentsii, no. 6, Doklady, diskussii resheniye. II Vses. Konfer. po khimii i prakt. prim. kremneorg. soyed., Len. 1958. Leningrad. Izd-vo AN SSSR. 1961, 90-94

TEXT: During the investigation of the reaction $3\text{CH}_2 = \text{CHCl} + \text{SiCH}_2 = \text{CHSiCl}_3$ it was found that the catalyst prepared from precipitated CuO , Si powder and a liquid glass binder was the most active. 3 methods of contacting were tried: (1) Stationary bed of pelletized catalyst (2 - 3 mm pellets); (2) an agitated powder bed; (3) a fluidized bed. The first method gave good results when using anhydrous FeCl_3 as an activator. The second method allowed the low-

Card 1/3

Study of vinyl ...

S/661/61/000/006/016/031
D205/D302

ering of the temperature from 460 to 420°C. The vinyl trichlorosilane yield was 33% and the output 10 - 15 g/hour/kg of catalyst. The third method resulted in a reduction of the contact time by a factor of 12 and a corresponding considerable increase in temperature. The yield of vinyl trichlorosilane was reduced, as the side reactions were enhanced, to ~26%. In contrast to the synthesis of methyl, ethyl and phenyl chlorosilanes where the best results are obtained in the fluidized bed, this method does not provide the contact times necessary for synthesis of vinyl chlorosilanes. As an alternative to the above reaction, the reaction $\text{HSiCl}_3 + \text{CH}_2 = \text{CHSiCl}_3 + \text{HCl}$ is proposed. This reaction was investigated, yields of 65% being obtained at 500°C with a contact time of 35 seconds. In the synthesis of methyl vinyl dichlorosilane by the reaction $\text{CH}_3\text{SiHCl}_2 + \text{CH}_2 = \text{CHCl} \rightarrow \text{CH}_3(\text{CH}_2=\text{CH})\text{SiCl}_2 + \text{HCl}$, the optimum conditions ensuring a 55% yield were 540°C and a contact time of 30 seconds. Thus the condensation of hydrochlorosilanes with vinyl

Card 2/3

Study of vinyl ...

S/661/61/000/006/016/081
D205/D302

chloride gives a simple continuous' method for preparing vinyl tri-chlorosilane and methyl vinyl dichlorosilane. There are 3 figures and 2 tables.

Card 3/3

X

S/062/62/000/006/004/008
B117/B101

AUTHORS: Morozova, L. P., Golubtsov, S. A., Andrianov, K. A., Trofimova, I. V., and Morozov, N. G.

TITLE: Formation of alkyl (aryl) chlorosilanes in direct reaction of alkyl (aryl) chlorides with silicon. Communication 1. Selectivity of silicon and copper catalysts, and formation of methyl dichlorosilane

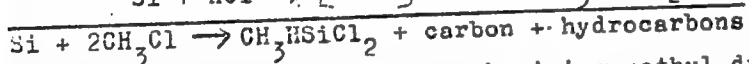
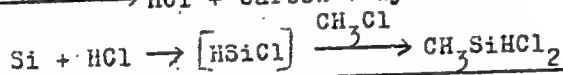
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 6, 1962, 1005 - 1011

TEXT: Production conditions, precipitating agents, and promoters affecting the selective activity of silicon and copper hydroxide catalysts in the formation of methyl dichlorosilane and dimethyl dichlorosilane were studied. Sufficiently active catalysts can be obtained by using copper chloride and copper nitrate, but copper sulfate gives completely passive catalysts. Simultaneous precipitation of copper hydroxide and zinc hydroxide (~2% by weight) increases the selectivity of the catalyst. Sodium hydroxide (in the formation of methyl dichlorosilane) and NH_4OH or Na_2CO_3 (in the formation of dimethyl dichlorosilane) are also studied. Card 1/3

S/062/62/000/006/004/008
B117/B101

Formation of alkyl ...

tion of dimethyl dichlorosilane) were found to be precipitating agents favoring the selectivity. The greatest effect on the selectivity of the catalyst is that exercised by promoters after the precipitation of hydroxides: Thus after introducing $ZnCl_2$ the yield of dimethyl dichlorosilane reaches 60% and after introducing Na_2SiO_3 that of methyl dichlorosilane reaches 45%. Thermal decomposition of methyl chloride on copper catalysts at 360-380°C (contact time 6-10 sec) was also studied. The hydrogen chloride separated in this reaction considerably affected the formation of methyl dichlorosilane. The following reaction course was suggested for the formation of methyl dichlorosilane:



The optimum temperature for synthesizing methyl dichlorosilane was found to be 350-380°C. At higher and lower temperatures, silicon tetrachloride,

Card 2/3

Formation of alkyl ...

S/062/62/000/006/004/008
B117/B101

trichlorosilane, and methyl trichlorosilane were mainly formed. There are 4 tables.

SUBMITTED: December 9, 1961

Card 3/3

S/079/62/032/003/004/007
D204/D302

AUTHORS: Trofimova, I.V., Lobusevich, N.P., Golubtsov, S.A. and
Andrianov, K.A.

TITLE: The effect of certain metallic additions to Si-Cu alloys
on their activity in the reaction with methyl chloride

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 3, 1962, 841-846

TEXT: The optimum amount of Cu and the effect of adding metals usually present in Cu and Si on the synthesis of methyl chlorosilanes were investigated, at 350-370°C, under 4 atm, by a method described earlier. Purified Si (total Al+Ca+Fe+Ti < 0.2%) and Kp-1(Kr-1)Si were used, with M-1 and M-0 copper. Assessment of the additions of Al, Ca, Fe, Ti, Pb, Sb and Bi was made on the basis of the yield of methyl chlorosilanes (g/kg alloy/hr) and by the selective formation of Me_2SiCl_2 . The optimum Cu content proved to be 7-10%. Using pure silicon, Al and Ti lowered the alloy activity when present to the extent of 0.2-0.3%, whilst Fe and Ca

Card 1/2

The effect of certain metallic ...

S/079/62/032/003/004/007
D204/D302

did not affect the reaction in quantities of 3 and 0.6% respectively. With Kr-1 Si, the negative influence of Al was apparent only at $\sim 2\%$, of Fe at 5%, Ti at 1% and Ca at 1.5%. With Kr-1 Si again, Pb and Bi behaved as catalytic poisons at $\sim 0.004-0.01\%$. 0.002-0.005% Sb promoted the reaction but this phenomenon was reversed at percentages $> 0.005\%$. These effects were affected by the presence of other additions. The alloys were prepared by D.I. Layner, L.A. Malysheva and L.A. Sotnikova. There are 5 figures, 4 tables and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: Brit. Pat. 637,941 (1950); US Pat. 2,464,033 (1949); Japan.Pat. 421,(1954), Ch.A. 49,1102, (1955); Brit. Pat. 609,172, 609,173 (1950).

SUBMITTED: February 2, 1961

Card 2/2

TURETSKAYA, R.A.; GOLUBTSOV, S.A.; TROFIKOVA, I.V.; ANDRIANOV, K.A.;
Prinimali uchastiye: LAYNER, D.I.; SOTNIKOVA, L.I.;
MALYSHEVA, L.A.

Effect of the admixture of some metals on the activity of
silicon-copper alloys in the reaction with theyl chloride.
Zhur.prikl.khim. 35 no.7:1496-1502 J1 '62. (MIRA 15:8)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy
institut obrabotki tsvetnykh metallov (for Layner, Sotnikova,
Malysheva).
(Silicon-copper alloys) (Ethane) (Metals)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756710005-9

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756710005-9"

Also, 1 of the, added to the alloy together with a small amount of
3) The alloy was then poured into a mold and allowed to solidify.

Card 4/4

L 20977-66 EWT(m)/EWP(j) RM

ACCESSION NR: AP5021673

UR/0080/65/038/008/1884/1886

547.222

AUTHOR: Lobusevich, N. P.; Trofimova, I. V.; Andrianov, K. A.; Golubtsov, S. A.

TITLE: Effect of sulfur dioxide on the synthesis of methylchlorosilanes

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 8, 1965, 1884-1886

TOPIC TAGS: silane, catalysis, sulfur compound, silicate, copper, silicon, aluminum, antimony, chloride

ABSTRACT: The effect of sulfur dioxide was evaluated with respect to the yield and the content of dimethylchlorosilane in the mixture. With a content of sulfur dioxide greater than 0.002% in methyl chloride, there is a decrease in the overall activity of copper silicate promoted with antimony. A decrease in selective activity in the synthesis of dimethylchlorosilane is observed with an increase in concentration of sulfur dioxide from 0.002 to 0.01% and at concentrations from 0.01 to 1.0% the content of dimethylchlorosilane is practically unchanged. Selective activity of alloys with the composition Cu_3Si (eta phase) in the absence of a promoter, as well as of mixtures of copper and silicon powders, decreases more rapidly than the activity of analogous alloys containing 0.005% antimony.

Card 1/2

L 20977-66

ACCESSION NR: AP5021673

With an increase in concentration of sulfur dioxide up to 2%, the synthesis of methylchlorosilanes over all the above catalysts stops. A particularly strong effect of sulfur dioxide is observed on the activity of alloys with increased content of aluminum (1% in an alloy with silicon and 87% copper). At sulfur dioxide concentrations of 0.002% the synthesis ceases. Mixtures of copper, silicon, and aluminum powders have a satisfactory and stable overall activity, but the selective activity decreases. With an increase in titanium content (0.5%) in alloys or in mixtures of copper and silicon powders, the introduction of sulfur dioxide into the methyl chloride leads to a decrease in activity and to a sharp increase in content of high melting products (up to 40% of the weight of the methylchlorosilane mixture). It was found that with an increase in reaction time of methyl chloride with a mixture of copper and silicon powders in the presence of 0.8% sulfur dioxide, the poisoning effect of the latter becomes stronger. Orig. art has: 5 figures and 1 table

ASSOCIATION: None

SUBMITTED: 17Jun63

NR REF SOV: 001

ENCL: 00
OTHER: 000

SUB_CODE: MM, IC

Card 2/2 *MGS*

L 15790-66 EWT(m)/EWP(j) RM
ACC NR: AP6002225

SOURCE CODE: UR/0080/65/038/012/2882/2885

AUTHOR: Lobusevich, N. P.; Trofimova, I. V.; Andrianov, K. A.; Golubtsov, S. A.

ORG: none

TITLE: Effect of dimethyl ether, carbon dioxide, and carbon monoxide on the synthesis of methylchlorosilanes ²⁵_F 44/66

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 12, 1965, 2882-2885

TOPIC TAGS: carbon monoxide, copper containing alloy, carbon dioxide

ABSTRACT: The effect of dimethyl ether in the reaction between methyl chloride with silicon alloys containing 20% Cu and 10% Cu, respectively, activated by 0.002-0.004% Sb in the boiling layer at atmospheric and higher pressures was studied. Carbon dioxide and carbon monoxide (0.5-14.5%) were studied in the same reaction at atmospheric pressure using various contact masses. It was found that dimethyl ether, carbon monoxide and, under certain conditions, carbon dioxide are contact inhibitors of the reaction which produces methylchlorosilanes. The inhibiting effect of carbon dioxide and dimethyl ether is attributed to carbon monoxide which causes ir-

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UDC: 547.211'222'245

L 15790-66
ACC NR: AP6002225

reversible pitting of the copper catalyst and also prevents the decomposition of the intermetallic compound Cu_3Si with the formation of catalytically active copper. The presence of less than 1% CO , CO_2 and CH_3OCH_3 sharply reduces the rate of the reaction which produces methylchlorosilanes. Orig. art. has: 6 figures, 2 tables.

SUB CODE: 07/

SUBM DATE: 20Jun63/

ORIG REF: 003/

OTH REF: 004

Card 2/2

mgs

L 16200-66 EWT(m)/ENP(j)/T RM

ACC NR: AP6002226

SOURCE CODE: UR/0080/65/038/012/2886/2887

AUTHOR: Lobusevich, N. P.; Trofimova, I. V.; Andrianov, K. A.; Golubtsov, S. A.

ORG: none

TITLE: Chemisorptive action of impurities and the effect of chlorosilanes and methylchlorosilanes

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 12, 1965, 2886-2887

TOPIC TAGS: chemisorption, chlorosilane, copper containing alloy, silicon containing alloy

ABSTRACT: The chemisorptive mechanism of action of the impurities is experimentally confirmed by introducing reaction products, chlorosilanes and methylchlorosilanes, into methyl chloride. It has previously been noted that the mechanism of action of the impurities is associated with their adsorption on the active centers and with the pitting of the copper catalyst. The introduction of from 0.5 to 2.0% of chlorosilanes or methylchlorosilanes into methyl chloride results in a two to three-fold increase in productivity and an increase of dimethyldichlorosilane in the mix-

UDC: 661.723-13

Card 1/2

L 16200-66

ACC NR: AF6002226

ture. The different effects of reaction products on the interaction of the alloys with pure and technical methyl chloride is apparently associated with the selective adsorption of impurities. The introduction of insignificant amounts of reaction products into methyl chloride and the preliminary treatment of the alloys with chlorosilanes or methyl chlorosilanes result in their selective adsorption on the catalyst which prevents pitting of the catalyst by harmful impurities and improves the indicators of the process. It is shown that the activity of the reaction products from methyl chloride and silicon in preventing the harmful effect of impurities increases in the series: $\text{HSiCl}_3 \geq \text{SiCl}_4 > \text{CH}_3\text{SiCl}_3 > (\text{CH}_3)_3\text{SiCl} > (\text{CH}_3)_2\text{SiCl}_2 > \text{CH}_3\text{HSiCl}_2$. Orig. art. has: 2 tables.

SUB CODE: 07/

SUBM DATE: 09Jul63/

ORIG REF: 001/

OTH REF: 000

Card 2/1 100

TROFIMOVA, I.V.; ANDRIANOV, K.A.; EFTIMINA, M.A.; ZIL'BERG, C.A.

Synthesis of methylchlorosilene in a fluidized bed by means of
vibration. Khim.prom. 41 no.6:448-470 66 '65.

(MIRA 18:8)

L 1255-66 EPF(c)/EWP(j)/EWT(m)/T RM

ACCESSION NR: AP5021674

UR/0080/65/038/008/1887/1889

AUTHOR: Lobusevich, N. P.; Trofimova, I. V.; Andrianov, K. A.; Golubtsov, S. A.

TITLE: Effect of methyl chloride and vinyl chloride on the synthesis of methyl-
chlorosilanes 14455
SOURCE: Zhurnal prikladnoi khimii, 1965, No. 10, p. 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527,

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 8, 1965, 1887-1889

TOPIC TAGS: chloride, silane, methylene chloride, vinyl chloride, catalysis, copper, silicon, aluminum, antimony

ABSTRACT: Methyl chloride obtained by chlorination of natural gas contains up to 1.7 vol. % methylene chloride and 0.2-3.0% vinyl chloride. It is known that at temperatures of 300-350°C methylene chloride reacts with silicon copper catalysts with formation of hexachlorodisilane methane and also of hydrogen containing chlorosilanes. Under the conditions of the reaction of methyl chloride with silicon-copper catalysts, the methylene chloride can react with the silicon with information of analogous compounds, and can undergo decomposition with the formation of carbon, which deactivates the catalyst. Carbonization of the catalyst was observed even after short term synthesis, with the introduction of

Card 1/2

L 1255-66

ACCESSION NR: AP5021674

6-7% of methylene chloride into the methyl chloride. In experiments in a pressurized fluidized bed on an alloy promoted with antimony, an investigation was made of the effect of vinyl chloride, whose concentration in the mixture with methyl chloride was varied from 0.16 to 4.0 vol. %. No adverse effect on the process was observed at concentrations up to 0.2%. In the reaction of methyl chloride with an alloy of the composition Cu_3Si , vinyl chloride in concentrations higher than 0.16% sharply lowers overall activity and slightly lowers selective activity. For Cu_3Si alloys and mixtures of copper and silicon powders with addition of 0.5% aluminum, the introduction of more than 0.16% vinyl chloride causes a greater decrease in overall activity than for catalysts with an antimony additive. In this case, large amounts of still residues are formed (15-40%). In general, it is concluded that under the conditions of the synthesis, vinyl chloride reacts with silicon with the formation of vinyl trichlorosilane, ethyl dichlorosilane, and dimethyl vinyl chlorosilane, and that this inhibits the separation of dimethylchlorosilane from the mixture of methylchlorosilanes. Orig. art. has: 3 figures and

1 table

SUBMITTED: 17Jun63

NR REF SOV: 003

Card 2/2 KC

ENCL: 00

OTHER: 002

SUB CODE: MM, GC

ACCESSION NR: AP0010510

861.719.5: 68.098.5 084

... .. I.V. Andrianov K.A. - Eafina M.A.: Zil'berg, G.A.

41
2

L 58901-00

ACCESSION NR: AP5016375

LOBUSEVICH, N.P.; LAYNER, D.I.; TROFIMOVA, I.V.; MALYSHEVA, L.A.;
ANDRIANOV, K.A.; GOLUBTSOV, S.A.

Reactions of alkyl (aryl) chlorosilane formation by the direct
interaction between alkyl (aryl) chlorides and silicon. Report No.5:
Phase composition of silicon-copper contact masses in reactions with
methyl chloride. Izv. AN SSSR Ser.khim. no.10:1757-1766 O '63.
(MIRA 17:3)

1. Nauchno-issledovatel'skiy i proyektnyy institut splavov i
obrabotki tsvetnykh metallov.

LOBUSEVICH, N.P.; TROFIMOVA, I.V.; ANDRIANOV, K.A.; GOLUBTSOV, S.A.

Effect of metal halides on the activity of copper-silicon
alloys in the synthesis of chloromethylsilanes. Plast.massy
no.3:22-24 '64. (MIRA 17:3)

ACCESSION NR: AP4018162

S/0191/64/000/003/0022/0024

AUTHORS: Lobusevich, N.P.; Trofimova, I.V.; Andrianov, K.A.;
Golubtsov, S.A.

TITLE: Effect of metal halides on the activity of silicon-copper
alloys in the synthesis of methylchlorosilanes.

SOURCE: Plasticheskiye massy*, no.3, 1964, 22-24

TOPIC TAGS: silicon copper catalyst, catalyst activity, methylchlorosilane synthesis, dimethyldichlorosilane synthesis, cuprous chloride, zinc chloride, silicon copper alloys, sodium halide, catalyst activator, metal halides

ABSTRACT: Activation of silicon-copper alloys containing 20% silicon with 3-7% CuCl increases the dimethyldichlorosilane content in the mixture of methylchlorosilanes by 10-20% in reactions at 4.5-5 atmospheres pressure. (no favorable results at atmospheric pressure); the optimum temperature is 3600. ZnCl₂ appears to be a more effective activator than CuCl since its introduction increases the dimethyldi-

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ACCESSION NR: AP4018162

chlorosilane content by 15-30% and the general activity of the silicon-copper alloy by 1.5 to 2 times. The optimum $ZnCl_2$ concentration depends on the synthesis conditions, e.g., at atmospheric pressure, 370C, and 3-5% $ZnCl_2$, the dimethyldichlorosilane yield is 65-67%; at 3 atmospheres, 290C, and 1% $ZnCl_2$ maximum yield was realized. The addition of 2-4% NaCl or NaF does not increase the yield of trimethylchlorosilane, but it does increase the yield of methyldichlorosilane from 5% to 12-20%. Orig. art. has: 4 tables and 5 figures.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 27Mar64

ENCL: 00

SUB CODE: CH

NR REF SOV: 001

OTHER: 010

Card 2/2

GOLUBTSOV, S.A.; ANDRIANOV, K.A.; TURETSKAYA, R.A.; BELIKOVA, Z.V.;
TROFIMOVA, I.V.; MOROZOV, N.G.

Reaction mechanism underlying the formation of dialkyldichlorosilanes.
Dokl. AN SSSR 151 no.6:1329-1331 Ag '63. (MIRA 16:10)

1. Chlen-korrespondent AN SSSR (for Andrianov).

LAYNER, D.I.; MALYSHEVA, L.A.; YEMEL'YANOV, L.G.; TROFIMOVA, I.V.;
LOBUSEVICH, N.P.; GOLUBTSOV, S.A.

Rate of cooling silicon-copper alloys. TSvet. met. 36 no.8:
76-79 Ag '63. (MIRA 16:9)
(Silicon-copper alloys—Metallography)
(Nonferrous ingots—Cooling)

TURETSKAYA, R.A.; TROFIMOVA, I.V.; ANDRIANOV, K.A.; GOLUBTSOV, S.A.

Role of the phase composition of silicon-copper contact masses in
the direct synthesis of ethylchlorosilanes. Zhur.ob.khim. 33
no.6:2015-2018 Je '63 (MIRA 16:7)
(Silane) (Copper-silicon alloys)

L 18899-63 EWP(j)/EPF(c)/EWT(m)/BDS ASD Pr-h/Pc-h RM/WW/MAY
 ACCESSION NR: AP3006593 S/0020/63/151/006/1329/1331

AUTHORS: Golubtsov, S. A.; Andrianov, K. A. (Corr. member AN SSSR);
 Turetskaya, P. A.; Belikova, Z. V.; Trofimova, I. V.; Morozov, N. G. ⁶⁹

TITLE: Reaction mechanism in the formation of dialkyldichlorosilanes

SOURCE: AN SSSR. Doklady*, v. 151, no. 6, 1963, 1329-1331 7

TOPIC TAGS: dialkyldichlorosilane, dichlorosilane, silane, silicon
 chloride, copper chloride, hydration, methyl chloride, alkyl chloride

ABSTRACT: Authors showed that during the interaction of alkyl chlo-
 ride with silica in the presence of copper, dialkyldichlorosilanes
 are formed. Copper monochloride, which is formed during the reaction
 of methyl chloride with copper, plays an important part in the syn-
 thesis of dialkyldichlorosilanes. The process consists of the ad-
 sorption of alkylchloride and its interaction with copper forming
 CuCl. Copper monochloride reacts with silica forming an intermediate
 product SiCl₂. The removal of CuCl from the reaction zone by means
 of hydration with hydrogen, results in the discontinuation of

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ACCESSION NR: AP3006593

diethyldichlorosilane formation. Orig. art. has: 1 table, 1 figure and 6 formulas.

ASSOCIATION: none

SUBMITTED: 09Apr63

DATE ACQ: 27Sep63

ENCL: 00

SUB CODE: CH

NO REF SOV: 005

OTHER: 001

Card 2/2

L 13349-63

WFP(j)/ZPP(c)/WMT(m)/BDS

ASD Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3002627

3/0079/63/033/006/2015/2018

AUTHOR: Turetskaya, R. A.; Trofimova, I. V.; Andrianov, K. A.; Golubtsov, S. A.

TITLE: The question of the role of the phase structure of silicon-copper contact masses in the direct synthesis of ethylchlorosilanes ¶

65
64

SOURCE: Zhurnal obshchey khimii, v. 33, no. 6, 1963, 2015-2018

TOPIC TAGS: phase structure, silicon-copper, synthesis, ethylchlorosilane, Cu sub 3 Si, silane, catalyst, ethyl chloride, dehydrochlorination, ethyldichlorosilane, diethyldichlorosilane

ABSTRACT: According to data obtained as well as literature, the role of the intermetallic Cu sub 3 Si compound, which disintegrates because of Si reacting with ethylchloride and which is regenerated in the process, consists in the formation (silanes) and partial renewal (of the catalyst). The concentration of Cu sub 3 Si does not determine selective activity of catalyst activity in ethyl chloride reaction; product yields are essentially the same whether contact mass is all Cu sub 3 Si, or just a mixture of Cu and Si (pure or with additives) where there is no Cu sub 3 Si, Cu provides the catalytic activity; the generation

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ACCESSION NR: AP3002627

of ethylene (from ethyl chloride) on contact with Cu-catalyst is almost instantaneous, dropping notably with time. This decrease in catalytic activity upon dehydrochlorination is assumed to determine the selective formation of ethyldichlorosilane (in preference to diethyldichlorosilane) in the direct synthesis process. Orig art. has: 1 figure, 2 tables.

ASSOCIATION: None

SUBMITTED: 26Apr62

DATE ACQ: 20Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 010

OTHER: 001

Card 2/2

L 10595-63

EWP(j)/EPF(c)/EWT(m)/BDS ASD Pc-II/Pr-L RM/WW

ACCESSION NR: AP3000943

S/0064/63/000/003/0011/0018

65

AUTHOR: Turetskaya, R. A.; Golubtsov, S. A.; Trofimova, I. V.; Andrianov, K. A.

TITLE: The influence of some kinetic and hydrodynamic conditions on the direct synthesis of ethylchlorosilanes 1

SOURCE: Khimicheskaya promyshlennost', no. 3, 1963, 11-18

TOPIC TAGS: Cu-Si alloy, kinetic conditions, hydrodynamic conditions, ethyl-chlorosilane

ABSTRACT: The optimum particle size of Cu-Si alloy (75-250 microns) for the direct synthesis of ethylchlorosilanes, and the critical rate of fluidizing the alloy in the stream of ethyl chloride in reactors of 20-100 mm diameter, were determined. Investigation of reagent contact time, in intervals from 0.3-6.6 sec., on the course of reaction showed composition of reaction products was practically independent of contact time. Optimum synthesis temperature was 360-380C (300-390 degrees range investigated). Change in properties of catalyst and its effect on reaction with ethyl chloride was investigated. Orig. art. has: 16 figures.

ASSOCIATION: none

Card 1/2/

TURETSKAYA, R. A.; GOLUBTSOV, S. A.; TROFIKOVA, I. V.; ANDRIANOV, K. A.

Effect of some kinetic and hydrodynamic conditions on the
direct synthesis of ethylchlorosilanes. Khim. prom. no.3:
171-178 Mr '63. (MIRA 16:4)

(Silane)

ANDRIANOV, K.A.; TURETSKAYA, R.A.; GOLUBETSOV, S.A.; TROFIMOVA, I.V.

Formation reactions of alkyl(aryl)chlorosilanes in the direct
interaction of alkyl(aryl) chlorides with silicon. Report No. 12:
Effect of hydrogen chloride on the formation of ethylchlorosilanes.
Izv. AN SSSR.Otd.khim.nauk no.10:1788-1794 0 '62. (MIRA 15:10)
(Silane) (Hydrochloric acid)

VIDICHENKOVA, Yu.N.; PUZIKOVA, E.A.; TROFIMOVA, K.A.; SMIRNOVA,
M.I., otv. za vypusk; BARIMOV, Yu.A., red.; YEVSTIGNEYEVA,
V.S., tekhn. red.

[Labor and wages; bibliography of literature published in
the U.S.S.R. in Russian in 1960] Trud i zarabotnaia plata;
bibliograficheskii ukazatel' literatury, izdannoï v SSSR
na russkom iazyke v 1960 g. Moskva, 1962. 471 p.
(MIRA 16:8)

(Bibliography--Labor and laboring classes)
(Bibliography--Wages)

CHERNEGA, D.F.; MOLOTKOV, V.A.; KISEL', N.N.; TROFIMOVA, K.G.

Investigating the effect on ingot metal properties of electric slag
hot top heating using graphite electrodes. Avtom.svar. 12 no.1:81-86
Ja '59. (MIRA 12:4)

1. Kiyevskiy ordena Lenina politekhnicheskoy institut (for Chernega).
2. Zhdanovskiy metallurgicheskoy zavod im. Il'icha (for Molotkov,
Kisel', Trofimova).
(Steel ingots—Testing) (Slag) (Electrodes, Carbon)

25(1)

SOV/125-59-1-13/15

AUTHOR:

Chernega, D.F., Molotkov, B.A., Kisel', N.N., Trofimova, K.G.

TITLE:

The Influence of Electric-Slag Heating of the Ingot Shrinkage Head by Graphitized Electrode on the Properties of Metal
(Issledovaniye vliyaniya elektroshlakovogo obogreva pribyl'-noy chasti slitka grafitizirovannym elektrodom na svoystva metalla)

PERIODICAL:

Avtomaticheskaya svarka, 1959, Nr 1, 82-86 (USSR)

ABSTRACT:

The macrostructure of a heated ingot has, in comparison with a non-heated ingot, the following features: shrinkage holes, better toughness of metal, less-marked low tapers and V-type segregation. The electric-slag heating of 3-ton ingots performed by direct current of positive polarity 1000 a and 50 v, results in no noticeable change in the chemical content of the metal. The concentration of sulphur in the heated ingot is by 0.002 to 0.005% less than in the unheated ingot. Under the influence of direct current, the content of hydrogen in the ingot body decreases. As a rule, the remaining hydrogen will shift

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25(1)

3GV/125-59-1-13/15

The Influence of Electric-Slag Heating of the Ingot Shrinkage Head by Graphitized Electrode on the Properties of Metal

to the negative pole. Electric-slag heating by means of direct current is most suitable for reducing hydrogen in the ingot and for improving the mechanical properties in the metal. There are three graphs, one sketch, one photo, one table, and ten Soviet references.

ASSOCIATION: Kiyevskiy politekhnicheskii institut (Kiyev Polytechnical Institute). Zhdanovskiy metallurgicheskii zavod im. Il'icha (Zhdanov Metallurgical Plant imeni Il'ich)

SUBMITTED: July 7, 1958

Card 2/2

DEMAKOVA, A.V.; RYABUSHKIN, Yu.P.; TARASOVA, L.P.; TROFIMOVA, K.G.; PEREVERZEVA, Ye.G.

Structure of the metal in welded joints in MSt.3 arsenical steel.
Avtom. svar. 14 no.5:11-19 My '61. (MIRA 14:5)

1. Zhdanovskiy metallurgicheskiy institut (for Demakova, Ryabushkin).
2. Zhdanovskiy zavod "Azovstal'" (for Tarasova). 3. Zhdanovskiy zavod tyazhelogo mashinostroyeniya (for Trofimova, Pereverzeva).
(Steel--Welding) (Welding--Testing)

TROFIMOVA, K.K.

Role of methane on radiation heat exchange between mine walls and
the air in the pit. Dop.AN URSR no.9:959-960 ' 58. (MIRA 11:11)

1. Khar'kovskiy gornyy institut. Predstavil akademik AN URSR A.N.
Shcherban [O.N.Shcherban']
(Mining engineering)

TROFIMOVA, K.K.

Radiant heat exchange between the walls of a mine shaft and
an air stream. Dop. AN URSS no.5:450-453 '56. (MLRA 10:2)

1. Kharkivs'kiy girnichiyy institut. Predstavleno akademikom
Akademii nauk USSR I.T. Shvetson.
(Mine ventilation) (Heat--Transmission)

SOV21-58-9-11/28

AUTHOR: Trofimova, K.K.

TITLE:

Role of Methane in Radiant Heat Exchange Between Mine Working Walls and the Air in the Pit (Rol' metana v luchistom teploobmene mezhdu stenkami gornykh vyrabotok i shakhtnym vozdukhom)

PERIODICAL:

Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 9, pp 959-960 (USSR)

ABSTRACT:

For the first time, A.N. Shcherban' and O.V. Kremnev [Ref. 1] solved the problem of heat exchange between the air and the walls of mine workings thereby ensuring the optimum thermal conditions in deep mines. The author [Ref. 2], showed that radiant heat exchange plays an important role in the general thermal balance. The intensity of this exchange was calculated for the presence of vapors and carbon dioxide in the air. The author also gives the calculation for the coefficient of radiant heat exchange for the presence of methane. The "blackness coefficient" of methane was calculated as a function of the product of the partial pressure of methane by the length of path of the ray and represented in the form of a graph. When there is a mixture of methane, vapor and carbon dioxide in the air, the summary blackness

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SOV-21-58-9-11/28

Role of Methane in Radiant Heat Exchange Between Mine Working Walls and the Air in the Pit

coefficient is usually equal to the sum of the components; however, in view of the low partial pressure of these gases it can be computed as amounting to an approximate sum of the blackness coefficients of the components. The results obtained can be used for determining the thermal conditions in deep mines. There are: 1 graph and 8 references, 4 of which are Soviet and 4 American.

ASSOCIATION: Khar'kovskiy gornyy institut (Khar'kov Mining Institute)

PRESENTED: By Member of the AS UkrSSR, A.N. Shcherban'

SUBMITTED: May 10, 1956

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration

1. Underground structures--Heat transfer 2. Underground structures
--Temperature factors 3. Methanes--Heat transfer 4. Air--Heat transfer

Card 2/2

TROPIMOVA, K.K.

Investigation of heat emission coefficients in stope models. Dop.
AN URSR no.6:535-538 '56. (MLRA 10:2)

1. Kharkivs'kiy girnichiy institut. Predstaviv akademik AN URSR
I.T.Shvets'.
(Mining engineering)

TRONTKOVA, K. K.

"Investigation of the Process of Heat Transfer Between an Air Stream and Mine-Shaft Walls, on Models by the Method of Regular Processes." Cand Tech Sci, Khar'kov Mining Inst, Min Higher Education USSR, Khar'kov, 1955. (KL, No 11, Mar 55)

SO: Sum. No. 670, 29 Sep 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

VAKARCHUK, A.; KONSTANTINOV, I.; TROFIKOVA, L., red.

[Rural builders of the Altai contemplate new frontiers; work practices of the "Altai Territory Construction Administration"] Sel'skie stroiteli Altaia namechaiut novye rubezhi; opyt upravleniia "Altai'stroy." Moskva, Trest "Orgsovkhozstroy," 1963. 13 p.
(MIRA 17:8)

1. Russia (1917- R.S.F.S.R.) Ministerstvo stroitel'stva. Glavnoye upravleniye po delam sel'skogo i kolkhoznogo stroitel'stva. 2. Glavnyy inzhener upravleniya "Altaytselinstroy" (for Vakarchuk). 3. Nachal'nik otdela tresta "Orgsovkhozstroy" (for Konstantinov).

TROFIKOVA, L.A.; SYROMYATNIKOV, N.G.

Determination of uranium, thorium, and zirconium with arsenazo
III without chemical separation. Zav. lab. 31 no.11:1325-1326
'65. (MIRA 19:1)

1. Institut geologicheskikh nauk AN KazSSR.

SYROMYATNIKOV, N.G.; TROFIMOVA, L.A.

Studying a way for finding uranium in fluorapatite by the method
of phase dynamic leaching. Izv. AN Kazakh. SSR. Ser. geol. 22
no.1:75-84. Ja-F '65. (MIRA 18:6)

1. Institut geologicheskikh nauk im. K.I. Satpayeva, g. Alma-Ata.

ONATSKIY, S.P., kand. tekhn.nauk; KASHKAYEV, I.S., inzh., nauchnyy
red.; TROFIKOVA, L.A., red.; KUZNETSOV, A.I., tekhn. red.

[Basic regulations of the organization and technology of
the manufacture of porous clay filler in rotary furnaces]
Osnovnye polozheniia organizatsii i tekhnologii proizvodstva
keramzitovogo zapolnitelia vo vrashchaiushchikhsia pechakh.
Moskva, TSentr. biuro tekhn. informatsii, 1959. 63 p.
(MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh
stroitel'nykh materialov.
(Cement industries)

OSIPOVA, V.V., kand. tekhn. nauk; SHCHURKIN, P.N., inzh.;
GOLOMAN, I.R., red.; ZHEBRAKOV, V.I., red.; TROFIMOVA,
L.A., red.

[Precast bearing framing of three-hinged reinforced concrete
frames in rural construction] Sbornye nesushchiye karkasy iz
zhelezobetonnykh trekhsharnirnykh ram v sel'skom stroitel'-
stve. Moskva, Trest "Orgsovkhozstroi," 1963. 11 p.
(MIRA 18:4)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye po delam
sel'skogo i kolkhoznogo stroitel'stva.

MEDNIKOVA, N.V., kand.fiziko-matem.nauk, otv.red.; TROFINOVA, L.A., red.;
POLYAKOVA, T.V., tekhn.red.

[Ionospheric research; collection of articles] Issledovaniia
ionosfery; sbornik statei. V razdel programmy MGG (ionosfera).
Moskva. No.3. 1960. 100 p. (MIRA 13:12)

1. Akademiya nauk SSSR. Mezhdunarodnyy komitet po prove-
deniyu Mezhdunarodnogo geofizicheskogo goda.
(Ionospheric research)

BUKETOV, Ye.A.; MEKLER, L.I.; NADIROV, Ye.G.; PASHINKIN, A.S.; TROFIMOVA, L.D.

System tellurium - tellurium dioxide. Zhur.neorg.khim. 9 no.1:224-225
Ja '64. (MIRA 17:2)

KAZANTSEV, Y.G.; PANCHENKO, A.A.; SAFOGOV, N.V.; TROFIKOVA, L.I.

Sorption of metal ions by carboxyl base exchanging compounds
in the form of hydrogen. Izv. vys. ucheb. zav.; tsvet. met.
8 no.5:43-48 '65. (MIRA 18:10)

1. Ural'skiy politekhnicheskiy institut.

SETEEN, V.D.; TROFIKOVA, L.I.

Raising Mycobacterium tuberculosis from sputum on chick embryos;
authors' abstract. Zhur.mikrobiol.epid. i immun. 30 no.2:125 F '59.
(MIRA 12:3)

1. Iz kafedry mikrobiologii Krasnoyarskogo gosudarstvennogo meditsin-
skogo instituta.

(MYCOBACTERIUM TUBERCULOSIS)

SHTIBEN, V.D.; TROFIMOVA, L.I.

Culturing Mycobacterium tuberculosis from sputum on hen's embryo.
Lab. delo 6 no.5:11-13 S-0 '60. (MIRA 13:9)

1. Kafedra mikrobiologii (zav. - prof. V.D. Shtiben) Krasnoyarskogo
meditsinskogo instituta.

(MYCOBACTERIUM TUBERCULOSIS)
(BACTERIOLOGY—CULTURES AND CULTURE MEDIA)

SHFITAL'NIK, S.S., st. nauchn. sotr.; TROFIMOVA, L.I., st. nauchn. sotr.; LUPASHKO, Ye.I., red.; CHAYKO, I.V., red.; SYRISOVA, S., red.

[Bibliographical index of scientific papers of the Kishinev State Medical Institute, 1946-1961] Bibliograficheskii ukazatel' nauchnykh rabot Kishinevskogo gosudarstvennogo meditsinskogo instituta, 1946-1961. Kishinev, Kartia moldoveniaske, 1963. 435 p. (MIRA 17:11)

1. Kishinev. Gosudarstvennyy meditsinskiy institut. Biblioteka. 2. Nauchnaya biblioteka Kishinevskogo meditsinskogo instituta (for Shpital'nik, Trofimova).